

2001年12月20日 16:49

USPTO Rec'd PCT/PTO 27 DEC 2001

TOPAM 83.001 APC

ART 34 AMDT

25

The amended claims under PCT Article 34

A) What is claimed IS.

CLAIMS

5 1. (Amended) A resin composition (a) for use in optical parts, comprising the following polymers (A), and (B) and/or (C):

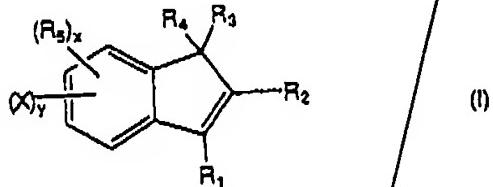
(A) a polymer comprising one or more kinds of indene and indene derivatives represented by the following general formula (I);

(B) a polymer comprising polystyrene or a polystyrene

10 derivative; and

(C) a polymer comprising a monomer copolymerizable with styrene or a styrene derivative:

15



(wherein R₁, R₂, R₃, R₄, and R₅ may be the same or different, and each represents a hydrogen atom; a monovalent hydrocarbon group containing a nitrogen atom, an oxygen atom or a silicon atom; an alkyl group having 1 to 6 carbon atoms; or a monovalent aromatic hydrocarbon group. X represents a hydrogen atom, a halogen atom, an acyl group, an alkoxy group or a nitrile group. x represents 0 or an integer of 1 to 4, and y represents 20 an integer of 1 to 4, where x + y = 4.).

25 an integer of 1 to 4, where x + y = 4.).

2001年12月20日 16:49

ART 34 AMDT

76

b4
2. (Amended) The resin composition (a) according to claim 1,
wherein a diphenylsilicone (D) and/or a phenolic antioxidant
(E) are/is added to the resin composition comprising the
polymers (A), and (B) and/or (C).

3. The resin composition (a) according to claim 1 or 2, wherein
the saturated water absorption is 0.4% or less, and the
birefringence in stretching the resin composition by 200% is
in the range of -2×10^{-6} to 2×10^{-6} .

4. The resin composition (a) according to any one of claims
1 to 3, wherein the weight-average molecular weight of the
polymer (A) is lower than 80000.

15 5. The resin composition (a) according to any one of claims
1 to 4, wherein the weight-average molecular weight(s) of the
polymer (B) and/or the polymer (C) are/is 50000 or higher.

20 6. The resin composition (a) according to any one of claims
1 to 5, wherein the content of the polymer (A) is 30 to 90%
by weight of the total of the resin composition (a).

25 7. A resin composition (b) comprising the following polymers
(F), (G) and (H):

2001年12月20日 16:49

PART 34 AMOT

77

- (F) a polymer comprising one or more kinds of indene and indene derivatives represented by the general formula (I);
- (G) a polymer comprising polystyrene or a polystyrene derivative; and
- 5 (H) a graft polymer having a structure wherein a polymer comprising at least one kind of indene and an indene derivative represented by the general formula (I) bonds to a side chain of a polymer comprising a monomer copolymerizable with styrene or a styrene derivative.
- 10 8. The resin composition (b) according to claim 7, wherein a diphenylsilicone (D) and/or a phenolic antioxidant (E) are/is added to the resin composition comprising the polymers (F), (G) and (H).
- 15 9. The resin composition (b) according to claim 7 or 8, wherein the saturated water absorption is 0.4% or less, and the birefringence in stretching the resin composition by 200% is in the range of -2×10^{-6} to 2×10^{-6} .
- 20 10. The resin composition (b) according to any one of claims 7 to 9, wherein the weight-average molecular weight of the polymer (F) is 4000 or higher.
- 25 11. The resin composition (b) according to any one of claims

2001年12月20日 16:49

78

180134 A1001
Cox
Pul
RJ12

7 to 10, wherein the weight-average molecular weights of the polymer (G) and the polymer (H) are 50000 or higher.

12. The resin composition (b) according to any one of claims 5 7 to 11, wherein the content of the polymer (F) is 30 to 90% by weight of the total of the resin composition (b).

13. A resin composition (c) comprising the following polymers (I) and (J), diphenylsilicone (D), and a phenolic antioxidant

10 (E):

(I) a polymer comprising one or more kinds of indene and indene derivatives represented by the general formula (I), wherein the polymer has a heterocyclic structure in a side chain thereof; and

15 (J) a polymer comprising styrene or a styrene derivative, and a monomer copolymerizable with styrene or a styrene derivative, wherein the polymer has a carboxyl group and/or a phenolic hydroxyl group in a side chain thereof.

20 14. The resin composition (c) according to claim 13, wherein the saturated water absorption is 0.4% or less, and the birefringence in stretching the resin composition by 200% is in the range of -2×10^{-6} to 2×10^{-6} .

25 15. The resin composition (c) according to claim 13 or 14,

2001年12月20日 16:50

79

wherein the content of the heterocyclic structure in the polymer
(I) is 0.01 to 5 mol% of the total of the resin composition
(c), and the content of the carboxyl group and/or the phenolic
hydroxyl group in the polymer (J) are/is 0.01 to 5 mol% of
the total of the resin composition (c).

16. The resin composition (c) according to any one of claims
13 to 15, wherein the molar ratio of the heterocyclic structure
to the carboxyl group and/or the phenolic hydroxyl group is
10 0.1 to 10.0.

Det
PX13
15

17. The resin composition (c) according to any one of claims
13 to 16, wherein the content of the polymer (I) is 30 to 90%
by weight of the total of the resin composition (c).

18. The resin composition (c) according to any one of claims
13 to 17, wherein the addition amount of the diphenylsilicone
(D) is 0.01 to 1.0% by weight of the total of the resin composition
(c), and the addition amount of the phenolic antioxidant (E)
20 is 0.1 to 3.0% by weight of the total of the resin composition
(c).

19. (Amended) A molding material for use in optical parts, the
molding material being obtained by molding a resin composition
25 selected from the resin composition (a) according to claim

2001年12月20日 16:50

80

1, the resin composition (b) according to claim 7 and the resin composition (c) according to claim 13.

20. (Amended) A sheet for use in optical parts, the sheet being obtained from a resin composition selected from the resin composition (a) according to claim 1, the resin composition (b) according to claim 7 and the resin composition (c) according to claim 13.

21. (Amended) A film for use in optical parts, the film being obtained from a resin composition selected from the resin composition (a) according to claim 1, the resin composition (b) according to claim 7 and the resin composition (c) according to claim 13.

15

22. An optical part using the molding material, the sheet or the film according to any one of claims 19 to 21.

ADD

11